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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/760,499	01/11/2001	Shunpei Yamazaki	07977/263001/US4563	2176

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SCOTT C. HARRIS
Fish & Richardson P.C.
Suite 500
4350 La Jolla Village Drive
San Diego, CA 92122

EXAMINER

GOFF II, JOHN L

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/760,499

Applicant(s)

YAMAZAKI ET AL.

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 7-15, 20, 25, 31, 35 and 43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 16-19, 21-24, 26-30, 32-34 and 36-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This action is in response to Amendment B filed on 6/26/03. All previous rejections under 35 U.S.C. 112 have been overcome.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 1-6, 16-19, 21-24, 26-30, 32-34, and 36-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (U.S. Patent 5,821,138) in view of the admitted prior art (Specification pages 1 and 2) and Yamazaki et al. (U.S. Patent 5,757,456).

Yamazaki et al. ('138) are directed to a method of manufacturing a display device having a plastic substrate on its upper and lower surfaces (Figures 1-4). Yamazaki et al. teach the method comprises forming a peeling layer (e.g. a silicon oxide film) on a first substrate (e.g. glass) (Column 6, lines 50 and 61-62), forming an insulating layer (e.g. a silicon oxide film) on

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the peeling layer (Column 7, lines 38-39), forming a semiconductor element (e.g. active layers, a gate insulating layer, gate electrodes, a first interlayer insulating layer, wirings, and pixel electrode/anode) on the insulating layer (Column 8, lines 21-27, 31-35, and 57-58 and Column 9, lines 5-8), bonding a second substrate (e.g. plastic) to the semiconductor element using a first adhesive (e.g. epoxy resin, acrylate resin, polyimide resin etc.) (Column 9, lines 9-12 and 17-20), exposing the peeling layer to halogen fluoride to remove the peeling layer and the first substrate (Column 9, lines 25-26 and 40-42), and bonding a third substrate (e.g. plastic) to the insulating layer using a second adhesive to form a display device (Column 9, lines 53-56). Yamazaki et al. are silent as to a specific teaching of an example including a light-emitting element in the display device. However, Yamazaki et al. teach the method can be used to form a liquid display unit or an electro luminescence (EL) display unit (Column 6, lines 47-49). One of ordinary skill in the art at the time the invention was made would have readily appreciated modifying Yamazaki et al. to include a light emitting element, i.e. pixel electrode/anode layer having a cathode layer applied to its upper surface with a layer of EL material sandwiched therebetween, as it was well known in the art that an EL display unit includes a light-emitting element as shown for example by the admitted prior art and Yamazaki et al. teach the method can be used to form an EL device.

The admitted prior art is directed to known EL display devices. The admitted prior art teaches that an EL display device includes a light-emitting element comprising an anode, a cathode, and an EL material sandwiched therebetween (Specification page 1, lines 15-25).

It is noted Yamazaki et al. '138 do not specifically teach a halogen fluoride gas to remove the peeling layer and first substrate. Absent any unexpected results, it would have been well within the purview of one of ordinary skill in the art to use a halogen fluoride gas to remove the

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peeling layers as halogen fluoride gas was a well known means for removing a silicon film as shown for example by Yamazaki et al. '456.

Yamazaki et al. '456 are directed to a method of forming a display device wherein the device is formed on a peeling layer (silicon film) and a first substrate (Column 6, lines 24-25). Upon completion of the method Yamazaki et al. '456 teach using a halogen fluoride gas to remove the peeling layer and the first substrate (Column 4, lines 25-37 and Column 8, lines 6-8).

Response to Arguments

5. Applicant's arguments filed 6/26/03 have been fully considered but they are not persuasive. Applicant argues that even if Yamazaki '138 were modified as proposed in the Office Action to include an EL display unit having a light-emitting element, the result would not disclose or suggest that the EL display with the light-emitting element would be completed prior to removal of an initial, first used substrate (and peeling layer). Applicant further cites an example in Yamazaki '138 directed to forming a liquid crystal display device showing the light emitting element is completed, i.e. liquid crystal material is injected, after the initial, first substrate is removed. As to the example referred to by applicant, Yamazaki '138 does show the light emitting element is completed after removal of the initial, first substrate. However, this example is directed to forming a liquid crystal device and not an EL device. Yamazaki '138 teaches the method can be used to form either liquid crystal devices or EL devices, but Yamazaki '138 does not describe an example, i.e. complete method, for forming the EL device.

The admitted prior art has been cited to show that EL devices are well known, and the light-emitting element in the device comprises an anode, a cathode, and an EL material

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sandwiched therebetween. Yamazaki '138 has been cited to show a method for forming a display device, e.g. an EL device, wherein the method includes a step for forming a pixel electrode/anode layer. Thus, Yamazaki '138 as modified by the admitted prior art disclose a method for forming an EL device (display device) wherein the device must include a light emitting element comprising an anode, EL material, and cathode, and the light emitting element must be completed prior to bonding the second substrate, as this is when the anode layer is formed, which is before peeling the first substrate.

Additionally, it is also noted that in Yamazaki '138 as modified by the admitted prior art if the light-emitting element where completed after the first substrate was removed, i.e. the EL material and cathode were added after peeling, the resulting EL device would be inoperable.

Furthermore, it is noted Yamazaki '138 discloses it is desirable to form the semiconductor element on a resin film. However, because of the low heat resistance of the resin film the semiconductor element is formed on a first substrate, e.g. glass, having high heat resistance before being transferred to the resin film. Similarly, the admitted prior art teaches that it is desirable to form the EL device, i.e. semiconductor element, on a plastic substrate, i.e. a substrate with low heat resistance. However, because of the high temperatures involved in forming the EL device it has not been possible to satisfactorily form an EL device on a plastic substrate. Thus it follows that one of ordinary skill in the art at the time the invention was made would have readily appreciated that the method taught by Yamazaki '138 as modified by the admitted prior art would include completing the light emitting element prior to peeling the first substrate as the formation of the light emitting element is a high temperature process that could not be preformed directly on the plastic substrate because of the plastics low heat resistance.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **703-305-7481**. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



John L. Goff
August 27, 2003



Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700